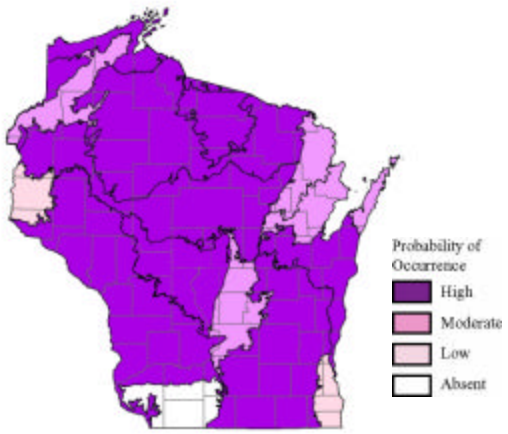
3.1.4.3 Individual Herptile Species of Greatest Conservation Need Summaries

Four-toed Salamander (*Hemidactylium scutatum*)

Species Assessment Scores*

State rarity:	3
State threats:	3.5
State population trend:	3.5
Global abundance:	3
Global distribution:	4
Global threats:	4
Global population trend:	4
Mean Risk Score:	3.6
Area of importance:	3

* Please see the Description of Vertebrate Species Summaries (Section 3.1.1) for definitions of criteria and scores.



Ecological Landscape Associations
Please note that this is not a range map. Shading does not imply that the species is present throughout the Landscape, but represents the probability that the species occurs somewhere in the Landscape.

Landscape -community Combinations of Highest Ecological Priority

Ecological Landscape	Community
Central Lake Michigan Coastal	Great Lakes Ridge and Swale
Central Sand Plains	Alder thicket
Central Sand Plains	Floodplain forest
Central Sand Plains	Open bog
Central Sand Plains	Shrub-carr
Forest Transition	Northern mesic forest
Forest Transition	Northern wet-mesic forest
North Central Forest	Alder thicket
North Central Forest	Emergent marsh
North Central Forest	Ephemeral pond
North Central Forest	Northern mesic forest
North Central Forest	Northern wet-mesic forest
North Central Forest	Open bog
Northern Highland	Emergent marsh
Northern Highland	Open bog
Northwest Lowlands	Open bog
Southeast Glacial Plains	Bog relict
Southeast Glacial Plains	Emergent marsh
Southeast Glacial Plains	Floodplain forest
Southeast Glacial Plains	Shrub-carr
Southeast Glacial Plains	Southern hardwood swamp
Superior Coastal Plain	Emergent marsh
Superior Coastal Plain	Open bog
Superior Coastal Plain	Shore fen
Western Coulee and Ridges	Emergent marsh
Western Coulee and Ridges	Floodplain forest
Western Coulee and Ridges	Shrub-carr
Western Coulee and Ridges	Southern mesic forest

Threats and Issues

- The predicted climate changes toward a warmer, drier climate would not favor this species, which is very sensitive to climate change as it has poor mobility.
- Loss of forest cover around breeding wetlands (ephemeral or permanent fishless wetlands with dense moss along edges or on overlain downed woody debris) degrades foraging habitat for this species.
- Forest harvesting or other disturbances that remove all or most of the forest canopy can depress local populations.
- Conversion of mixed forest to conifer plantations is a threat to this species.
- The loss of downed woody debris, or management that reduces the future quantity and quality of downed woody debris, can degrade habitat for this species.
- Invasive earthworms reduce habitat quality by reducing the amount and quality of duff, which is both direct habitat for and supports the prey base of these salamanders.
- Changing soil acidity and road salt probably impact this species, but no data are available to evaluate these issues.
- Roads contribute to habitat fragmentation and road mortality.

Priority Conservation Actions

- Maintain old forests with vernal pools on both public and private lands to benefit this species.
- Forest management including a buffer around suitable forested wetlands habitats prevents premature pond drying and the loss of critical moss microhabitat (minimum of a 50-foot buffer).
- Management for quality and quantity of downed woody debris.
- Management guidelines for vernal pools within a forested matrix are needed to protect this species.
- Promote reforestation.
- Better protect vernal pools with adequate surrounding core habitat (700 ft).
- Wildlife habitat in general is poorly represented in zoning and planning and major strides are needed in policy and education here.
- Research is needed on impacts and control of non-native earthworms, and on potential impacts of changing soil acidity and road salt on this species.
- Inventory efforts are needed for vernal pool habitats.
- Educate public and government officials about vernal pools and associated core terrestrial habitat wildlife needs.
- Establish long term monitoring to track population trends of this species.
- Tax incentives are needed for preserving old growth forests, providing for reforestation, and preserving core habitat around vernal pools.